

# DRUM IRIS TECHNOLOGY



The docking of drums for powder transfer could represent a challenging yet necessary operation while developing most production processes, especially when high containment is a must.

De Dietrich Process System offers the Patented Technology DIT® (Drum Iris Technology), which is an innovative and easy to use solution for a fast discharge. DIT® is the perfect alternative to the common docking methods based on bag in - bag out or inflatable gaskets. It offers greater ease of use and provides compatibility with drums of all diameters.

## WORKING PRINCIPLE

The DIT® - Drum Iris Technology - is based on a double diaphragm valve interface, with full diameter opening and closing ends by means of a diaphragm: the iris.

The docking process consists of opening the external iris valve and then introducing the drum until it touches the internal iris still closed. After closing the external valve on the container body, the internal valve is opened to introduce the top of the drum.

By this time, both iris valves can be squeezed on the drum body to seal the system to very low OEB 5 containment values.

The double elastic barrier minimizes the contact surface of the drum with the inner potentially contaminated atmosphere. The docking operations can be fully automatic without introducing the need of any kind of consumables.

Furthermore, a negative or positive pressure difference (pressure cascade) between the double iris pass box and the adjacent environments is easy to achieve and maintain during all operations.



## ADVANTAGES & MATERIALS

- Wide opening up to 700 mm
- Great versatility, allowing for drums of multiple diameters to be docked
- Easy cleaning and maintenance
- External body of the drum not in contact with the process
- Fully automated or manual docking system
- FDA and/or ATEX (conductive) materials for the Iris
- Single use iris available

## DRUM DOCKING STATION FOR POWDER TRANSFER

The charging of reactors from drums is a very common application and, especially when the powder to be transferred is highly toxic, it must be performed in a contained environment.

De Dietrich Process Systems Drums Docking Stations are equipped with DIT® Drum Iris Technology to assure the superior containment performance and ease of use, facilitating integration with multiple systems, processes and equipment, including reactors or De Dietrich's Powder Pump.



### SINGLE CHAMBER DRUM DOCKING STATION

This docking station is designed to help operators safely transfer materials out of drums. The pneumatic lifter allows inverting drums to remove the contents with few operator interaction. The drums can be either connected from the bottom or the back of the station. Equipped with the DIT® system, transfers are done in a contained way.

#### ADVANTAGES:

- DIT® technology integrated on chamber back or working bench
- Body built in AISI 304, AISI 316, Hastelloy C-22
- ATEX version available
- Up to OEB 5 containment level
- Easy integration of multiple powder transfer systems
- Exhaust system with double Push-Push H14 filtration unit, for negative pressure process
- Spray-ball and spray-gun for CIP (Cleaning In Place) process
- Side liner for waste bag-out
- Back or bottom connection possible

### DOUBLE CHAMBER DRUM DOCKING STATION



This version is a variant of the single chamber, integrating a second chamber for a higher level of containment.

#### ADVANTAGES:

As above and:

- Up to OEB 6 containment level
- Handling of powder done in the main chamber in order to keep the pre-chamber clean
- Customizable number of gloves for each chamber
- Internal transfer port with inflatable flush mounted gasket
- Fully integrable with high containment valves
- Customizable overall dimensions

### GLOVE BAGS FOR DRUM DOCKING STATION



This solution allows you to charge powders manually and directly from a drum to your reactor in total safety. The station can be designed as per your environment all constraints and will be perfectly adapted to your needs. The DIT® system is integrated to reach optimal performance.

#### ADVANTAGES:

- Single or double DIT® technology integrated with the glove bag
- Glove bags built in antistatic PU or LDPE
- ATEX version available
- Up to OEB 4 containment level
- Direct reactor charging
- Thermo-welded gloves
- Spray-gun for CIP process
- Side liner for waste bag-out
- Customizable design and overall dimensions